Content-Aware Automatic Photo Enhancement
Supplementary Material

1 Introduction

The supplementary material includes a screenshot of the application used in our experiment (below), and a number of automatic enhancement results sets. The first 7 sets correspond to images that appear in the paper, and most of the others are additional results. About half of the input images in this document are from the set of 100 images that were randomly chosen from the MIT-Adobe 5K dataset [BPCD11] for our experiment.

Figure 1: The screen presented to the participants in our user study.

2 Comparison with several commercial products

Input

Our Result

Office Picture Manager

Photoshop Elements

Picasa

Input

Our Result

Office Picture Manager

Photoshop Elements

Picasa

Input

Our Result

Office Picture Manager

Photoshop Elements

Picasa

Input

Our Result

Office Picture Manager

Photoshop Elements

Picasa

Input

Our Result

Office Picture Manager

Photoshop Elements

Picasa

Input

Our Result

Office Picture Manager

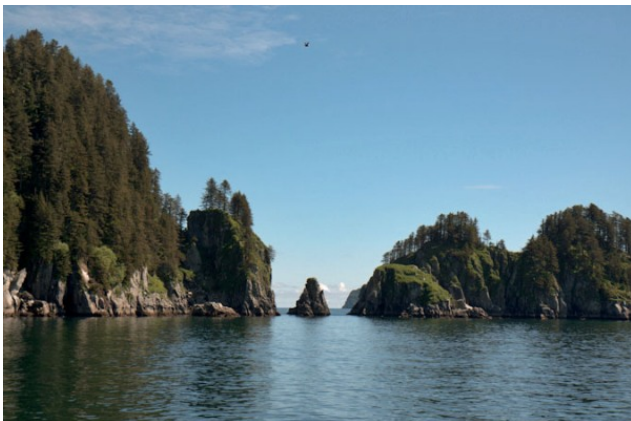Photoshop Elements

Picasa

Input

Our Result

Office Picture Manager

Photoshop Elements

Picasa

Input

Our Result

Office Picture Manager

Photoshop Elements

Picasa

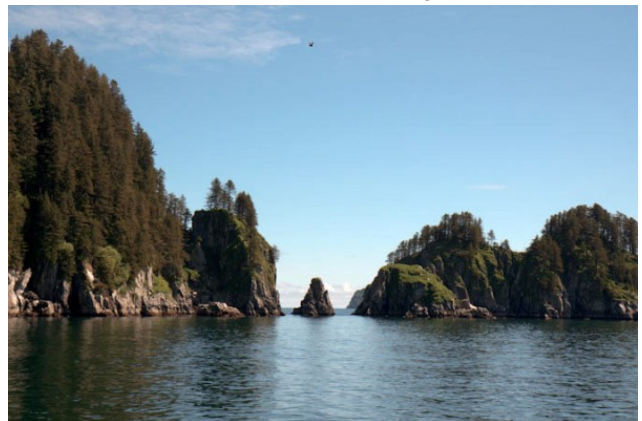Input

Our Result

Office Picture Manager

Photoshop Elements

Picasa

Input

Our Result

Office Picture Manager

Photoshop Elements

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Input

Our Result

Office Picture Manager

Photoshop Elements

Picasa

Input

Our Result

Office Picture Manager

Photoshop Elements

Picasa

Input

Our Result

Office Picture Manager

Photoshop Elements

Picasa

Input

Our Result

Office Picture Manager

Photoshop Elements

Picasa

Input

Our Result

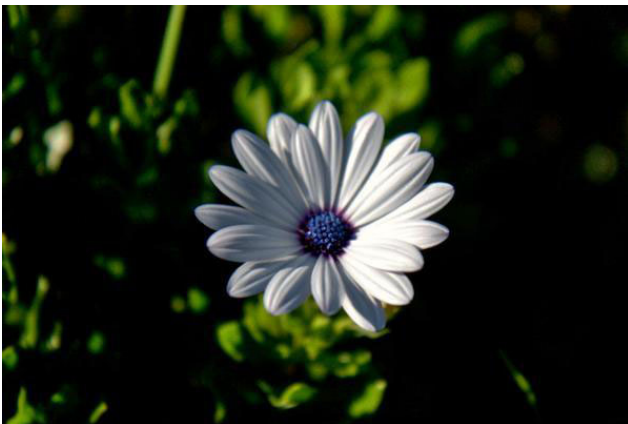

Office Picture Manager

Photoshop Elements

Picasa

Input

Our Result

Office Picture Manager

Photoshop Elements

Picasa

Input

Our Result

Office Picture Manager

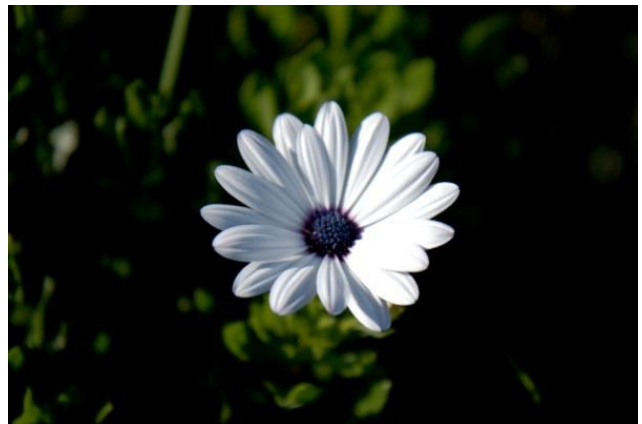Photoshop Elements

Picasa

Input

Our Result

Office Picture Manager

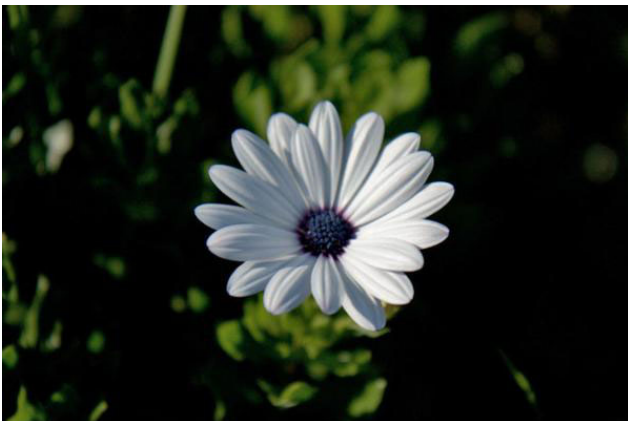Photoshop Elements

Picasa

Input

Our Result

Office Picture Manager

Photoshop Elements

Picasa

Input

Our Result

Office Picture Manager

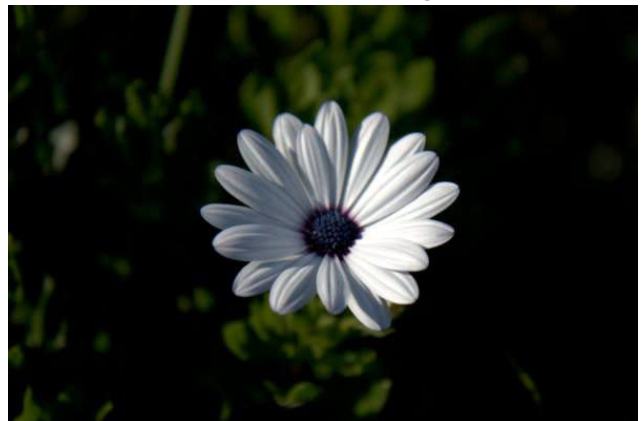Photoshop Elements

Picasa

Input

Our Result

Office Picture Manager

Photoshop Elements

Picasa

Input

Our Result

Office Picture Manager

Photoshop Elements

Picasa
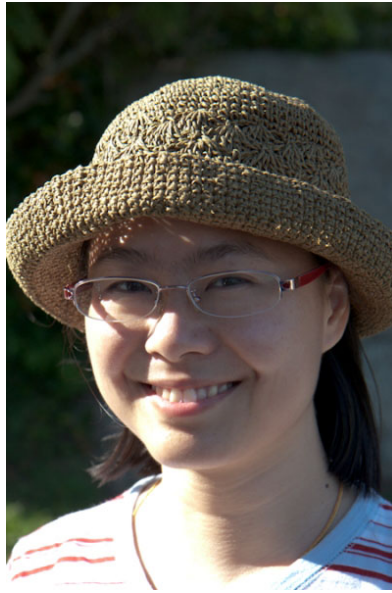
Input

Our Result

Office Picture Manager

Photoshop Elements

Picasa

Input

Our Result

Office Picture Manager

Photoshop Elements

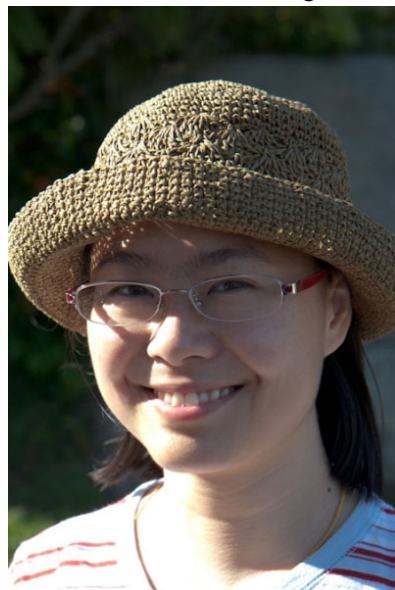
Picasa

Input

Our Result

Office Picture Manager

Photoshop Elements

Picasa

Input

Our Result

Office Picture Manager

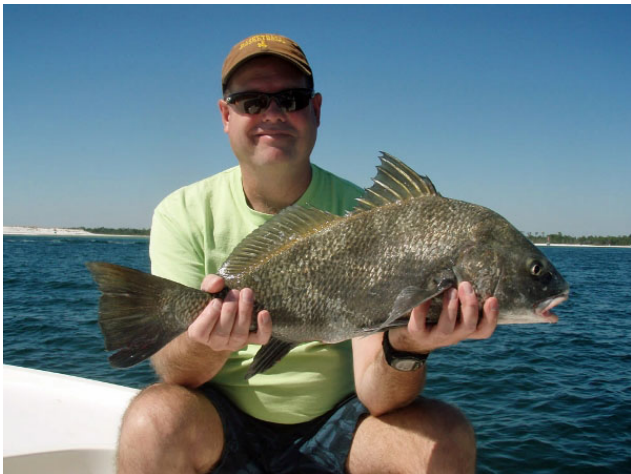Photoshop Elements

Picasa

Input

Our Result

Office Picture Manager

Photoshop Elements

Picasa

3 Comparison with the method trained by Bychkovsky et al.

Input

Our Result

Bychkovsky et al. [BPCD11]

Input

Our Result

Bychkovsky et al. [BPCD11]
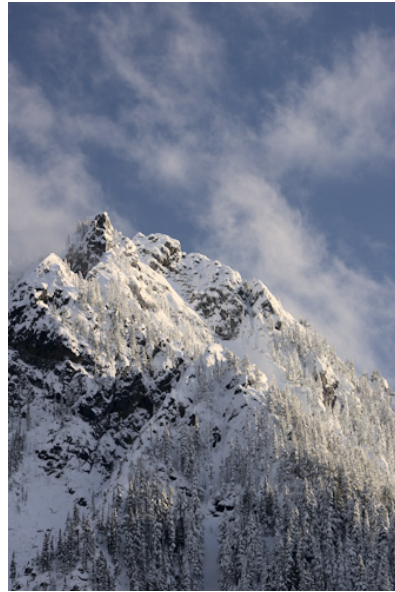
Input

Our Result

Bychkovsky et al. [BPCD11]

Input

Our Result

Bychkovsky et al. [BPCD11]

Input

Our Result

Bychkovsky et al. [BPCD11]

4 Comparison with the method trained by Caicedo et al.

Input

Our Result

Caicedo et al. [CKK11]

Input

Our Result

Caicedo et al. [CKK11]

5   Limitations

Below you will find examples of failure cases of our method. In all examples the left image is the input one and the one on the right is our result.

We start with an example of an skin detection failure:

Input   Result

Here the skin detector has misclassified pixels on the wall near the face as face skin pixels, and as a result parts of the background wall around the face were brightened more than the rest of the wall.

In the next image, a distant mountain is classified as sky or cloud and therefore its colors are "corrected" towards blue:

Input   Result

The following two examples are images where there is no sky at all, but there is a smooth region in the top part of the image sufficiently close to sky colors to be erroneously classified as sky and "corrected" towards blue:

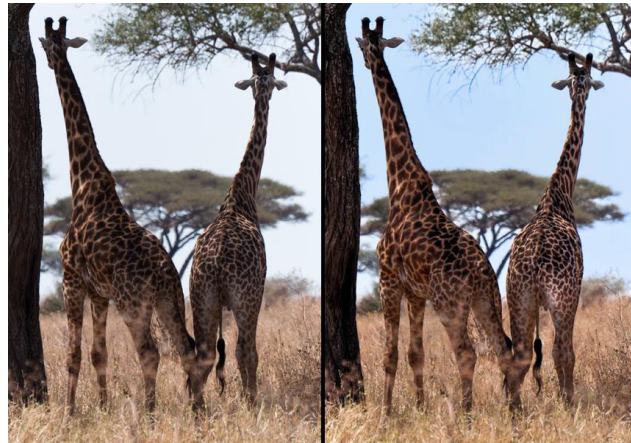Input   Result

Input   Result

Finally, in this example the sky is partially covered by branches of a tree, thus isolating small fragments of the sky. The pixels inside these fragments were not correctly classified as sky, and have slightly different color in the result produced by our method:

| Input | Result |